

**REMARKS**

Applicant respectfully requests reconsideration. Claims 1, 3-22, 24-37 and 44-47 were previously pending in this application. By this amendment, Applicant is canceling claims 7, 9, 14 to 16, 19, 20, 26 to 29 and 32 to 36 without prejudice or disclaimer. New claims 48-60 have been added. The amendments that have been made to the claims are set out below, along with the bases for the amendment and for the newly added claims.

- Claim 1 has been amended to incorporate the features of previous claims 7, 14 and 15. The ingredient which is adversely affected by UV light has been further defined based on page 3 lines 9 to 16, page 4 lines 5 to 8 and page 14 lines 20 to 25. The doped or reduced metal oxide has been limited to doped TiO<sub>2</sub>. Based on these amendments, claims 8, 10-13, 21-22, 24, 25, 30 and 31 have been amended correspondingly.
- The upper limit for the particle size range in claim 12 has been amended to be 100 nm based on page 17 line 19 of the description.
- Claim 18 has been amended to recite specific derivatives of para-aminobenzoic acid based on page 6 line 28 to page 7 line 1. The spelling of dibenzoylmethane has been corrected, as disclosed on page 7 line 15. Specific derivatives of camphor are now recited in claim 18 based on page 7 line 24 to 28. A specific silicon based sun screening agent is now also recited in claim 18 based on page 8 lines 1 to 2.
- Claim 46 has been amended to recite the particle size range disclosed on page 9 line 6.
- New claim 48 is directed to a polymeric composition as disclosed on page 12 lines 24 to 25. The composition of claim 48 comprises the same ingredients (i) to (iii) as defined in claim 1. Claim 48 also specifies a particle size for the doped metal oxide as disclosed on page 17 line 19.
- The subject matter of new claim 49 recites the subject matter of both previous claims 26 and 30. Similarly, new claim 50 recites the subject matter of both previous claims 26 and 31.
- New claims 51 to 55 are based on previous claims 32 to 36 respectively.
- New claims 56 to 58 recite the subject matter of claims 3 to 5 respectively.

- New claim 59 recites the subject matter of claim 8.
- New claim 60 recites the subject matter of claim 46.

No new matter has been added.

### **Rejections Under 35 U.S.C. § 112**

1. The Examiner rejected claims 1, 3-16, 19-22, 24-36 and 45-47 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Applicant respectfully requests reconsideration.

Claim 1 now recites types or classes of compounds that are disclosed in the description that are an “ingredient which is adversely affected by UV light in the presence of a metal oxide selected from TiO<sub>2</sub>, ZnO, and mixtures thereof”. Clearly, the definition of this ingredient in claim 1 does now “*...allow one skilled in the art to visualize or recognize the identity of the subject matter purportedly described*” as set out in Univ. of Rochester v G. D. Searle & Co., 358 F.3d 916, 69 USPQ2d 1886, 1892 (Fed. Cir. 2004). Furthermore, the ingredient which is adversely affected by UV light in claim 1 is now defined using “*sufficiently detailed, relevant identifying characteristics,*” including “*functional characteristics when coupled with a known or disclosed correlation between function and structure*” in accordance with MPEP 2163 II.A.3.(a) (citing Enzo Biochem, Inc. v. Gen-Probe, Inc., 323 F.3d 956, 964, 63 USPQ2d 1609, 1613 (Fed. Cir. 2002)).

2. Claim 18 was rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Claim 18 now recites specific derivatives of the sunscreen agents para-aminobenzoic acid and camphor. The silicone based sunscreen agent is now also specifically defined.

3. Claim 16 was rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. This claim has now been canceled, rendering this rejection moot.

4. Claim 46 was rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement, on the basis that the claim contains new matter. The Examiner indicated that the specification provides support for a particle size of from 100 nm to 20000 nm. Claim 46 has been amended to recite this specific particle size range.

Accordingly, withdrawal of the rejections made under 35 U.S.C. § 112, first paragraph, is respectfully requested.

### **Rejections Under 35 U.S.C. § 103**

1. The Examiner rejected claims 1, 10-22, 24, 26-29, 35-37 and 47 under 35 U.S.C. § 103(a) as being unpatentable over Mitchnick et al (US Patent No. 5441726). Applicant respectfully requests reconsideration.

The compositions of claim 1 and claims dependent therefrom (and new claim 48 and claims dependent therefrom) now require the presence of TiO<sub>2</sub> doped with a dopant element as an ingredient in the composition. Mitchnick et al does not describe compositions comprising doped TiO<sub>2</sub>. Thus, this document does not provide all of the elements of the claimed invention and accordingly does not render obvious the claimed invention.

2. The Examiner rejected claims 9, 25 and 45-46 under 35 U.S.C. § 103(a) as being unpatentable over Mitchnick et al (US Patent No. 5441726) in view of Knowland et al (WO 99/60994). Applicant respectfully requests reconsideration.

Claim 9 has been canceled and the objection against this claim is therefore rendered moot.

Mitchnick et al was cited by the Examiner because it discloses doped ZnO. As explained above, the claimed compositions require the presence of TiO<sub>2</sub> doped with a dopant element as an ingredient in the composition. Applicant submits that, by virtue of their dependency on claim 1, claims 25, 45 and 46 are not obvious over the combination of Mitchnick et al in view of Knowland et al, which does not provide all of the elements of the claimed invention.

3. The Examiner rejected claims 1, 3-8, 11, 16-21, 26-35, 37 and 46 under 35 U.S.C. § 103(a) as being unpatentable over Chopoorian (US Patent No. 3314321 [*sic*, 3317321]) in view of Feist et al (US PGPUB No. 20020094455). Applicant respectfully requests reconsideration.

Claim 1 is now directed to a UV sunscreen composition suitable for cosmetic use. In contrast, Chopoorian describes photochromic materials for use in articles such as data storage devices, reflectants for incident high-intensity radiation and photochemical printing (see column 1, lines 22 to 25). Chopoorian certainly does not describe a UV sunscreen composition that could be topically applied to a human. Furthermore, Feist et al describes a data storage medium (see paragraph [0010]). There is no mention of UV sunscreen compositions in this document.

It would not be possible to obtain a UV sunscreen composition suitable for cosmetic use simply by considering Chopoorian in combination with Feist et al. Nor does the combination of the cited references provide a reason to make the compositions of the claimed invention. The composition of claim 1, and of claims dependent therefrom, is therefore not obvious from Chopoorian in view of Feist et al.

New claim 48 is directed to a polymeric composition comprising, *inter alia*, TiO<sub>2</sub> doped with a dopant element, which has a particle size from 1 to 100 nm.

Chopoorian describes doped metal oxide particles that are colored and which change color on exposure to UV light (see column 3, lines 15 to 28). However, Chopoorian does not disclose the size of the doped metal oxide particles.

For the Examiner's consideration, pages 3 and 5 from volume 19 of *Kirk-Othmer, Encyclopedia of Chemical Technology*, 4<sup>th</sup> Edition is enclosed. These pages relate to the properties of pigments, such as the colored metal oxide particles described in Chopoorian. On page 5 it states that "*For inorganic pigments to be useful in most applications, they must have an average particle size between 0.1 and 10 µm*" (emphasis added). Thus, Applicant submits that the person of ordinary skill in the art would understand that the colored particles in Chopoorian are likely to have an average particle size that is greater than the 100 nm upper limit required for the doped TiO<sub>2</sub> in the composition of claim 48. In addition, when following the teaching of Chopoorian, the skilled person would produce particles have an average particle size that is greater than that recited in claim 48.

Feist et al is completely silent about the particle size of the titanium dioxide filler and reinforcing agent that it describes (see paragraph [0034]).

It would not therefore be possible to obtain the composition of claim 48 by combining features from Chopoorian with Feist et al, nor would the person of ordinary skill in the art have a reasonable expectation of success in doing so. The composition of claim 48, and of claims dependent therefrom, is not therefore obvious from over Chopoorian in view of Feist et al.

Accordingly, in view of the foregoing arguments, withdrawal of the obviousness rejections made under 35 U.S.C. § 103(a) is respectfully requested.

**Double Patenting Rejections**

1. The Examiner provisionally rejected claims 1, 4-22, 24-29 and 45-47 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-25 of copending Application No. 10/540649.

Applicant submits herewith a terminal disclaimer to obviate the double patenting rejection based on copending Application No. 10/540649, and accordingly respectfully requests withdrawal of this rejection.

2. The Examiner provisionally rejected claims 1, 3-22, 24-36 and 45-47 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 8, 10-12, 16-20, 24-32, 34, 36, 50-52 and 54-55 of copending Application No. 10/588071 in view of Mitchnick et al.

Applicant respectfully submits that copending Application No. 10/588071 is abandoned, and accordingly, the double patenting rejection based on this application is moot.

3. The Examiner provisionally rejected claims 1, 3-22 and 24-36 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-14, 16-23, 27 and 28 of copending Application No. 10/555570.

Applicant submits herewith a terminal disclaimer to obviate the double patenting rejection based on copending Application No. 10/555570, and accordingly respectfully requests withdrawal of this rejection.

4. The Examiner provisionally rejected claims 1, 3-22, 24-25 and 45-47 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-14, 16-17 and 20-21 of copending Application Nos. 11/054188 and 11/207408 in view of Mitchnick et al.

Applicant submits that the amendment of claim 1 distinguishes the claimed invention over claims 1-14, 16-17 and 20-21 of copending Application Nos. 11/054188 and 11/207408 in view of Mitchnick et al. Therefore, the instant claims are asserted to be non-obvious with respect to claims 1-14, 16-17 and 20-21 of copending Application Nos. 11/054188 and 11/207408 in view of Mitchnick et al.

In the event that the Examiner does not agree with the distinction noted above, the Examiner is respectfully requested to defer further consideration of the double patenting objection until an allowable set of claims have been obtained in this application.

5. The Examiner has rejected claims 1, 3-6, 10-29 and 45 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4, 7-8 and 10 of US Patent No. 6869596 in view of Mitchnick et al.

Applicant submits that the amendment of claim 1 distinguishes the claimed invention over claims 1-4, 7-8 and 10 of US Patent No. 6869596 in view of Mitchnick et al. Therefore, the instant claims are asserted to be non-obvious with respect to claims 1-4, 7-8 and 10 of US Patent No. 6869596 in view of Mitchnick et al.

In the event that the Examiner does not agree with the distinction noted above, the Examiner is respectfully requested to defer further consideration of the double patenting objection until an allowable set of claims have been obtained in this application.

**CONCLUSION**

In view of the foregoing, the present application is believed to be in condition for allowance. A Notice of Allowance is respectfully requested. The Examiner is requested to call the undersigned at the telephone number listed below if this communication does not place the application in condition for allowance.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, any necessary extension of time is hereby requested. If there is a fee occasioned by this response, including an extension fee, the Director is hereby authorized to charge any deficiency or credit any overpayment in the fees filed, asserted to be filed or which should have been filed herewith to our Deposit Account No. 23/2825, under Docket No. K0181.70023US00.

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Respectfully submitted,

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